

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

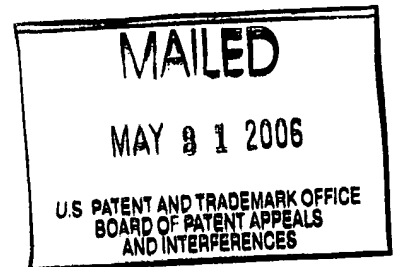
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JESSICA MAIMBORG

Appeal No. 2006-1599
Application No. 09/919,105

ON BRIEF



Before HAIRSTON, JERRY SMITH, and BARRY, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-16, which constitute all the claims pending in this application.

The disclosed invention pertains to a user interface for a medical apparatus with a display screen, a memory containing normal data for at least two parameters, and a control unit that processes the normal data and signal data and generates a representation on the screen. The control unit represents the signal data for each parameter in the form of a sector in a regular polygon. The control unit compares the signal data to

the normal data and varies the appearance of the sector according to the results of the comparison.

In an exemplary embodiment, the representation consists of three circles corresponding to a lower alarm limit, a data circle, and an upper alarm limit. The data circle is divided into six sectors--one sector for each parameter to be displayed. As long as parameter values are normal, a perfect circle is displayed. But if deviations exist between signal data and normal data, the radius of those sectors corresponding to the deviated parameter values will change, thus causing a distinct deviation from the data circle's normal circular shape. As a result, such deviations from normal data are readily noticeable.

Representative claim 1 is reproduced as follows:

1. A user interface for a medical apparatus, comprising:
a display screen;

a memory containing normal data for at least two parameters;

a control unit connected to said screen and to said memory;

a signal input connected to said control unit for entering signal data for said at least two parameters into said control unit; and

said control unit causing said signal data for each parameter to be represented on said display screen as a sector of constant angular size in a regular polygon, said sectors being displayed without inter-relation to each other and said regular polygon having a predetermined size representing said normal data, and said control unit comparing said signal data to said normal data for each parameter and uniformly varying a radial size

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of said sector starting from said predetermined size dependent on a result of the comparison.

The examiner relies on the following references:

Schaefer et al. (Schaefer)	4,675,147	Jun. 23, 1987
Feller	6,343,508	Feb. 5, 2002
Meier et al. (Meier)	6,211,887	Apr. 3, 2001

The following rejections are on appeal before us:

1. Claim 1¹ stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.
2. Claim 16² stands rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements.
3. Claims 1-12, 14, and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Schaefer in view of Feller.
4. Claims 13 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of Schaefer in view of Feller and further in view of Meier.

Rather than repeat the arguments of appellant or the examiner, we make reference to the brief and the answer for the respective details thereof.

¹ Although claims 2-16 depend from claim 1, claims 2-16 were not rejected.

² Although the examiner also noted an antecedent problem in claim 14, the claim was not rejected. Nevertheless, an amendment filed with the appeal brief was entered that cured the deficiency. See Amendment After Final, filed Jun. 6, 2005. See also Communication from the examiner, mailed Jan. 3, 2006 (confirming entry of the amendment after final rejection). Accordingly, the examiner's comments regarding claim 14 no longer apply to amended claim 14 and are deemed to be moot.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence relied upon by the examiner as support for the prior art rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellant's arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the disclosure in this application describes the claimed invention in a manner that complies with the requirements of 35 U.S.C. § 112, first paragraph. We are also of the view that claim 16 does not particularly point out the invention in a manner which complies with 35 U.S.C. § 112, second paragraph. Finally, it is our view that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in the claims on appeal. Accordingly, we affirm.

We consider first the rejection of claim 1 under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. The examiner alleges that there is insufficient support in the specification or drawings for the limitation of claim 1 that the sectors are "displayed without inter-relation" [answer, pages 4, 10, and 11]. The examiner argues that the

specification teaches away from displaying the sectors without inter-relation. In support of this assertion, the examiner points to Figs. 2-6 to show that because the total angular sum of the circular/polygonal graph is 360 degrees, each sector's angular size affects the other sectors' angular size [answer, page 11]. The examiner also notes that uniformly varying a radial size of a sector from a predetermined size provides a common relation between that group of elements. According to the examiner, displaying the sectors without inter-relation to each other as claimed "limits the display to not show any type of relationship between sectors" [answer, page 11]. The examiner concludes that it would be impossible to display a diagram as described by appellant's specification without sectors being related or inter-related in some manner to one another [answer, page 12].

Appellant argues that the examiner is ignoring the differences between the word "relation" and "inter-relation" [brief, page 9]. Appellant notes that the normal dictionary definition of "inter-relate" is "to be connected in such a way that each thing has an effect on or depends on the other" [brief, page 10]. Consistent with this definition, appellant then concludes that the limitation calling for the sectors to be "displayed without inter-relation to each other" means "that adjustment of one of the sectors does not automatically or necessarily result in a connected adjustment or change in another

of the sectors" [brief, page 9]. Although appellant acknowledges the term "without inter-relation" is not explicitly used in the specification, appellant argues that the specification is nevertheless directed to ways that each sector is varied independently of all the other sectors [brief, page 11].

We agree with appellant that the originally-filed disclosure reasonably supports and enables displaying the sectors "without inter-relation" as claimed. "The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." United States v. Teletronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). Moreover, claim language is given its ordinary and customary meaning -- the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention. Phillips v. AWH Corp., 415 F.3d 1303, 1312-13, (Fed. Cir. 2005). "The person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification" [id.].

Here, the term "without inter-relation" read in light of the disclosure reasonably suggests to the skilled artisan that adjusting one sector does not automatically or necessarily result in a connected adjustment or change in another of the sectors.

The instant specification describes deviations between signal data and normal data for the first sector 38A' and second sector 38B' where each sector represents a different parameter [specification, page 11, second full paragraph - page 12, second full paragraph]. Furthermore, Figure 4 shows that the radius of both the first and second sectors 38A' and 38B' increased from the normal based upon their respective measurement values, yet the other sectors remain unchanged. Thus, each sector is displayed independently of the other sector without adjusting or changing the other sectors. Such an independent display produces a clear visual distinction between each sector's measured values. In view of this supporting disclosure and the ordinary and customary meaning of the term "inter-relate," the skilled artisan could make or use the invention calling for displaying the sectors without inter-relation to each other without undue experimentation. Therefore, the disclosure is enabling for this limitation.

We now consider the rejection of claim 16 under 35 U.S.C. § 112, second paragraph as being incomplete for omitting essential structural cooperative relationships of elements. The examiner argues that because the claim recites displaying the regular polygon and the at least one additional regular polygon in both a small and large format, the same element - not a duplicate - can be simultaneously displayed. Appellant, however, did not address

the examiner's rejection despite the examiner's alerting appellant to this fact [see answer, pages 18 and 19].

We will sustain the examiner's rejection. Parsing the claim language, the claim requires that:

- (1) the regular polygon and the at least one additional regular polygon to be displayed in a small format, and
- (2) one of the regular polygon and the at least one additional regular polygon to be displayed in a larger format.

As the examiner notes, the claim can require both the regular polygon and at least one additional regular polygon to be displayed in small and large formats simultaneously. Accordingly, the examiner has a reasonable basis for the rejection that is unrebutted. Therefore, appellant has not overcome the examiner's prima facie case that the claims fail to particularly point out and distinctly claim the subject matter of the invention under 35 U.S.C. § 112, second paragraph.

We now consider the rejection of claims 1-12, 14, and 15 under 35 U.S.C. § 103(a) based on Schaefer and Feller. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467

(1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make

in the brief have not been considered and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii)(2004)].

Regarding independent claim 1, the examiner's rejection essentially finds that Schaefer teaches every claimed feature except for displaying the sectors without inter-relation to each other or uniformly varying a sector's radial size. The examiner cites Feller as teaching a display of values using sectors that are displayed independently of neighboring sectors and uniformly varying the sectors' radial size. The examiner finds that it would have been obvious to the skilled artisan at the time of the invention to modify the display of Schaefer to more closely resemble the display of Feller to allow the user to see deviation from the normal via morphing the shape of the display [answer, pages 5 and 6].

Appellant argues that modifying the display of Schaefer to resemble that of Feller would necessarily result in a completely different manner of displaying the information that would ultimately reduce the clarity and content of the displayed information [brief, page 12; reply brief, page 4]. In Schaefer's display, the size and shape of each sector depends on respective values of the two axes that define each respective sector. According to appellant, distorting the shapes of the respective sectors in Schaefer is therefore essential for conveying the intended information [brief, pages 11 and 12]. Appellant notes that Feller cannot accomplish such distortions since the radial

size of the sector is increased or decreased without a relationship to specific values along the respective axes defining the sector [brief, page 13].

The examiner responds that modifying Schaefer as suggested in the rejection would modify the reference only to the extent that Schaefer's display would show the measure of a value radially between axes instead of upon the axes [answer, pages 15 and 17]. The examiner further notes that both Schaefer and Feller are directed toward the same field of invention and achieve the same goals in a similar manner by providing a graphical circular/polygonal display so that the user can determine whether a problem exists by noticing an irregularity in shape of the perimeter of the measures [answer, page 13].

Appellant also argues that Feller does not disclose that each sector has a constant angular size and displayed without inter-relation as claimed in claim 1. Appellant notes that Feller varies the sectors in both angular and radial sizes [brief, pages 13 and 14]. The examiner responds that Feller in Figs. 3 and 8 and col. 1, lines 44-50 teaches displaying sectors independent of neighboring sectors and uniformly varying the sectors' radial size [answer, pages 6 and 17].

We will sustain the examiner's rejection of claims 1-12, 14, and 15³. We agree with the examiner that it would have been obvious

³ We note that appellant did not argue claim 15 separately in the first claim grouping in connection with the examiner's obviousness rejection based on Schaefer and Feller. Rather, appellant argued the rejection of claim 15 in

(continued...)

to the skilled artisan at the time of the invention to modify the display of Schaefer in the manner taught by Feller. Although Schaefer displays an irregular polygon to visually indicate deviations from normal measured values, the skilled artisan would have reasonably relied on the teachings of Feller to convey such deviations by varying the radius of a circle segment proportional to the measured value. Feller's display provides the user with an indication of each parameter's value at a glance by comparing the relative radial magnitudes of the segments. We see no reason why such a radial display could not be used to display deviations from normal values in lieu of displaying an irregular polygon as in Schaefer.

Although Feller teaches in col. 1, lines 44-50 that the angle between the two axes is proportional to the importance of the parameter, Feller nevertheless would display sectors of constant angular size once the importance of the parameter is established. That is, once a parameter is selected and its importance determined, the parameter's importance will be fixed and therefore displayed with a constant angular size.

(...continued)

connection with the second grouping (i.e., the obviousness rejection of claims 13 and 16 based on Schaefer, Feller, and Meier) [see Brief, pages 15 and 16]. Appellant's arguments on Pages 15 and 16 of the Brief regarding claim 15 are not germane to the examiner's rejection of that claim because the examiner did not rely on Meier in the rejection. Rather, the examiner relied solely on Schaefer and Feller in rejecting claim 15 [see answer, pages 5, 8, and 18]. As the examiner noted, Schaefer teaches stacked polygons with the polygon produced by measured values overlaying the polygon representing normal values [answer, pages 8 and 18]. Because appellant did not directly address the examiner's grounds of rejection of claim 15, the examiner's prima facie case of obviousness is not persuasively rebutted.

The parameter's radius, however, will remain proportional to the measured value of the parameter. Moreover, parameters with equal importance will also be displayed with a constant angular size.

We now consider the rejection of claims 13 and 16 under 35 U.S.C. § 103(a) based on Schaefer, Feller, and Meier. Regarding claim 13, the examiner's rejection essentially finds that the combination of Schaefer and Feller discloses the claimed subject matter except for a touch-sensitive surface for accessing more detailed information with respect to the touched parameter [answer, page 9]. The examiner cites Meier as teaching providing a touch screen for data entry, modification, and storage in a system of viewing multiple measures on a polar chart. The examiner finds that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display of Schaefer and Feller to include a touch screen such as that disclosed by Meier to provide an intuitive means of selecting items on a display device [answer, page 9].

Appellant, however, did not address the merits of the examiner's rejection of claim 13. Appellant notes that "[c]laim 13 states that both the aforementioned regular polygon and an additional regular polygon are simultaneously displayed" [brief, page 15]. This limitation, however, is recited in claim 14 -- not claim 13. Later in the brief, appellant notes that claim 13 is "patentable over the teachings of Schaefer et al, Feller, and

Meier et al for the reasons discussed above in connection with claim 1" [brief, page 17]. We therefore presume that appellant did not intend to separately argue the merits of the examiner's rejection of claim 13.

We will sustain the examiner's rejection of claim 13. We find that the examiner has established at least a prima facie case of obviousness of claim 13 that appellant has not persuasively rebutted. Here, the examiner has (1) pointed out the teachings of Schaefer and Feller, (2) pointed out the perceived differences between Schaefer and Feller and the claimed invention, and (3) reasonably indicated how and why Schaefer and Feller would have been modified to arrive at the claimed invention. Once the examiner has satisfied the burden of presenting a prima facie case of obviousness, the burden then shifts to appellant to present evidence or arguments that persuasively rebut the examiner's prima facie case. As noted above, appellants did not persuasively rebut the examiner's prima facie case of obviousness for claim 13. The rejection is therefore sustained.

Regarding claim 16, the examiner finds that the claim differs from Schaefer and Feller in calling for displaying multiple polygons in a small format where at least one polygon is displayed in a larger format [answer, page 9]. The examiner cites Meier as teaching changing the size of hash marks to change the size of a polygon in a display. The examiner finds that it

would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display of Schaefer and Feller to include a means to modify the sizes of polygons as taught by Meier to allow for more polygons to be displayed and free up display space for other information [answer, page 10]. Appellant argues that Meier does not teach that multiple polygons are displayed simultaneously in different formats [brief, page 16].

Appellant further argues that once hash mark divisions are selected, the size of the display is completely dependent on the current value of the displayed parameter. According to appellant, selecting hash mark gradations is therefore not the same as selecting a size format [brief, page 16]. The examiner responds that changing the hash marks in Meier would change the size of displayed polygons to allow the system to display polygons in a different size format [answer, page 19].

We will sustain the examiner's rejection of claim 16. Appellant's arguments do not commensurate with the scope of the claim. Notwithstanding the indefiniteness problem noted previously in connection with the rejection under 35 U.S.C. § 112, second paragraph⁴, the broadest reasonable interpretation of the claim merely requires simultaneously displaying a regular polygon and an additional regular polygon in a small and larger format respectively. The prior art cited by the examiner amply

⁴ See Pages 7 and 8, supra, of this opinion.

teaches simultaneously displaying multiple polygons of different sizes.

See, e.g., Meier, Figs. 6 and 7 and col. 7, line 39 - col. 8, line 30. See also Schaefer, Fig. 5 and col. 2, lines 32-41.

Moreover, we agree with the examiner that Meier reasonably suggests varying the size of displayed polygons and that the reference would be reasonably combined with Schaefer and Feller. Meier teaches that hashmarks 130b along the axis of a displayed polygon represent numerical values and that the user can enter the lowest possible value, intermediate value, and highest possible value in Hashmark field 204. The hashmarks are then spread apart at increments equal to the difference between the intermediate value and the lowest value [Meier, col.5, lines 33-40]. Because the size of the displayed polygon is relative to the respective hashmark values, varying the hashmarks as suggested by Meier would result in varying the size of the displayed polygon. Even if the simultaneously-displayed polygons share the same axis and hashmarks, they would nevertheless be simultaneously displayed in a small and larger format and fully meet the claim limitation given its broadest reasonable interpretation.

In summary, we have not sustained the examiner's rejection with respect to claim 1 under 35 U.S.C. § 112, first paragraph. We have, however, sustained the examiner's rejection of claim 16 under 35 U.S.C. § 112, second paragraph. The examiner's rejection

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under 35 U.S.C. § 112, second paragraph. The examiner's rejection under 35 U.S.C. § 103(a) is sustained with respect to all claims. Therefore, the decision of the examiner rejecting claims 1-16 is affirmed.


No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a) (1) (iv).

AFFIRMED


KENNETH W. HAIRSTON
Administrative Patent Judge

Gerry Smith
JERRY SMITH
~~Administrative Patent Judge~~

Administrative Patent Judge



LANCE LEONARD BARRY
Administrative Patent Judge

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